

COST SUMMARY WORK

Task description: Reclamation Cost Update SO-02

Site: Gray Pit #2 Permit Action: 2022-04-22 SO-02
Cost Update

Permit/Job#: M2005012

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 4/22/2022 County: Montrose Filename: M012-000
User: DMC

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Cut 20' bench, 1100 linear feet to 3H:1V Slope	DOZER	1	61.13	\$14,451
02a	Rip 2 ac. staging and stockpile areas	RIPPER	1	3.42	\$896
03a	Push 6" topsoil over 2.5 ac.	DOZER	1	1.88	\$445
04a	Revegetate 3 ac. max disturbance	REVEGE	1	3.00	\$6,234
05a	Mobilize Reclamation Crew/Equipment	MOBILIZE	1	2.80	\$2,628
<u>SUBTOTALS:</u>				72.23	\$24,654

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$498
Performance bond:	1.05	Total =	\$259
Job superintendent:	0.00	Total =	\$0
Profit:	10.00	Total =	\$2,465
		TOTAL O & P =	\$3,222
		CONTRACT AMOUNT (direct + O & P) =	\$27,876

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	\$500	Total =	\$500
Engineering work and/or contract/bid preparation:	0.00	Total =	\$0
Reclamation management and/or administration:	5.00		\$1,394

CONTINGENCY: 0.00 Total = \$0

TOTAL INDIRECT COST = \$5,116

TOTAL BOND AMOUNT (direct + indirect) = \$29,770

BULLDOZER WORKTask description: Cut 20' bench, 1100 linear feet to 3H:1V SlopeSite: Gray Pit #2Permit Action: 2022-04-22 SO-02
Cost UpdatePermit/Job#: M2005012**PROJECT IDENTIFICATION**Task #: 01A
Date: 4/22/2022
User: DMCState: Colorado
County: MontroseAbbreviation: None
Filename: M012-01aAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SU
Horsepower: 310
Blade Type: Semi-Universal
Attachment: NA
Shift Basis: 1 per day
Data Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$97.46</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$97.63</u>	<u>100</u>
Ripper own.		
Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$41.30</u>	<u>NA</u>
Total unit Cost/Hour:	<u>\$236.39</u>	
Total Fleet Cost/Hour:	<u>\$236.39</u>	

MATERIAL QUANTITIESInitial Volume: 24,444
Swell factor: 1.330
Loose volume: **32,511 LCY**Source of estimated volume: Division of Reclamation, Mining & Safety
Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 60 feet
Unadjusted hourly production: 1,246.9 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 0 %
Average site altitude: 7,000 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% EarthJob Condition Correction FactorSource

Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4265

Adjusted unit
production: 531.80 LCY/hr
Adjusted fleet
production: **531.8** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.445/LCY

Total job time: **61.13** Hours
Total job cost: **\$14,451**

BULLDOZER RIPPING WORK

Task description: Rip 2 ac. staging and stockpile areas

Site: Gray Pit #2 Permit Action: 2022-04-22 SO-02 Cost Update: Permit/Job#: M2005012

PROJECT IDENTIFICATION

Task #: 02A State: Colorado Abbreviation: None
Date: 4/22/2022 County: Montrose Filename: M012-02a
User: DMC

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU Horsepower: 310
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$97.46	NA
Operating Cost/Hour:	\$97.63	100
Ripper Ownership Cost/Hour:	\$15.19	NA
Ripper Operating Cost/Hour:	\$9.94	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$261.52	
Total Fleet Cost/Hour:	\$261.52	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 2.00 acres Rip Depth (ft): 2.00 Volume: 6,453 BCY or CCY

Source of estimated quantity: Reclamation Plan

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.56 feet/pass
Average Ripping Width: 7.08 feet/pass
Average Ripping Length: 100.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.703 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.703 Acres/hr
Site Altitude: 7,000 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.58 Acres/hr
Adjusted Hourly Fleet Production: 0.58 Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: 3.43 Hours

Unit cost: \$447.927 Per acre

Total job cost: \$896

BULLDOZER WORKTask description: Push 6" topsoil over 2.5 ac.Site: Gray Pit #2Permit Action: 2022-04-22 SO-02
Cost UpdatePermit/Job#: M2005012**PROJECT IDENTIFICATION**Task #: 03A
Date: 4/22/2022
User: DMCState: Colorado
County: MontroseAbbreviation: None
Filename: M012-03aAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SU
Horsepower: 310
Blade Type: Semi-Universal
Attachment: NA
Shift Basis: 1 per day
Data Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$97.46</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$97.63</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$41.30</u>	<u>NA</u>
Total unit Cost/Hour:	<u>\$236.39</u>	
Total Fleet Cost/Hour:	<u>\$236.39</u>	

MATERIAL QUANTITIESInitial Volume: 2,017
Swell factor: 1.000
Loose volume: 2,017 LCYSource of estimated volume: Division of Reclamation, Mining & Safety
Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 60 feet
Unadjusted hourly production: 1,246.9 LCY/hrMaterials consistency description: Loose stockpile 1.2Average push gradient: 0 %
Average site altitude: 7,000 feetMaterial weight: 1,600 lbs/LCYWeight description: Top SoilJob Condition Correction FactorSource

Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.600	(FND-SF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6445

Adjusted unit
production: 803.63 LCY/hr
Adjusted fleet
production: **803.63** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.294/LCY

Total job time: **2.51** Hours
Total job cost: **\$593**

REVEGETATION WORKTask description: Revegetate 3 ac. max disturbanceSite: Gray Pit #2Permit Action: 2022-04-22 SO-02
Cost UpdatePermit/Job#: M2005012**PROJECT IDENTIFICATION**Task #: 04A
Date: 4/22/2022
User: DMCState: Colorado
County: MontroseAbbreviation: None
Filename: M012-04aAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
8-24-24, 10-15-15, 10-20-20	250.00	pound	\$0.34	\$85.00
			Total Fertilizer Materials Cost/Acre	\$85.00

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$38.77
Total Fertilizer Application Cost/Acre	\$38.77

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$96.50
Weed control spraying (MEANS 31 31 16.13 3100)	\$290.40
Total Tilling Cost/Acre	\$386.90

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Paloma	3.12	10.10	\$34.71
Crested Wheatgrass - Ephraim	1.50	6.89	\$6.49
Canby Bluegrass - Canbar	0.45	9.57	\$4.61
Sand Dropseed	0.05	5.97	\$0.49
Galleta	3.00	10.95	\$67.05
Rabbitbrush, Rubber	0.03	0.45	\$1.93
Saltbush, Four Wing	1.00	1.38	\$12.50
Totals Seed Mix	9.15	45.30	\$127.78

Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	\$232.00
Total Seed Application Cost/Acre	\$232.00

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Total Mulch Application Cost/Acre	\$177.86

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
Totals Nursery Stock Cost / Acre					\$0.00

JOB TIME AND COST

No. of Acres: 3 Cost /Acre: \$1,662.35
 Estimated Failure Rate: 25% Cost /Acre*: \$1,662.35
 *Selected Replanting Work Items: FERTILIZING, TILLING, SEEDING,
MULCHING

Initial Job Cost: **\$4,987.05**
 Reseeding Job Cost: **\$1,246.76**
 Total Job Cost: **\$6,234**
 Job Hours: **3.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize Reclamation Crew/Equipment**Site: **Gray Pit #2** Permit Action: 2022-04-22 SO-02
Cost UpdatePermit/Job#: M2005012**PROJECT IDENTIFICATION**Task #: 05A State: Colorado Abbreviation: None
Date: 4/22/2022 County: Montrose Filename: M012-05a
User: DMCAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per day
Cost Data Source: CRG DataTruck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,
400 HP (2ND HALF, 2006)Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT
TRAILER (25T, 50T, AND 100T)**Cost Breakdown:**

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$21.28	\$37.94	\$47.67
Operating Cost/Hour:	\$26.55	\$50.48	\$56.21
Operator Cost/Hour:	\$20.54	\$20.54	\$20.54
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$68.37	\$132.49	\$147.95

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D8T - 8SU	53.08	\$112.65	\$147.95	1	\$260.60	\$147.95	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$7.98	\$68.37	1	\$76.35	\$68.37	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$14.98	\$68.37	1	\$83.35	\$68.37	\$250.00
Subtotals:					\$420.30	\$284.69	\$750.00

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 3/4 T.	\$12.93	1	\$12.93	\$12.93
Subtotals:			\$12.93	\$12.93

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: MONTROSE
 Total one-way travel distance: 8.00 miles
 Average Travel Speed: 40.00 mph

Total Non-Roadable Mob/Demob Cost * \$2,622.60
 ** two round trips with haul rig:
 Total Roadable Mob/Demob Cost ** \$5.17
 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.20	0.20
Return Time (Hours):	0.20	0.20
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.40	0.40

JOB TIME AND COST

Total job time: 2.80 Hours

Total job cost: \$2,628